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FLORIDA STATE MUSEUM

DIRECTOR'S
REPORT
1960-1961

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Nov., 1961

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DEPARTMENT OF SOCIAL SCIENCES

Ripley P. Bullen, M.E.	Curator
William H. Sears, Ph.D.	Associate Curator
Howard A. Chamberlen, B.S.	Museum Technician
Mrs. Adelaide K. Bullen, B.A.	Associate in Anthropology
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DEPARTMENT OF NATURAL SCIENCES

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Clayton E. Ray, M.A.	Assistant Curator
Carter R. Gilbert, Ph.D.	Research Associate in Ichthyology
Paul Slud, Ph.D.	Research Associate in Ornithology
Reeve M. Bailey, Ph.D.	Research Associate in Ichthyology
Roy H. Reinhart, Ph.D.	Research Associate in Vertebrate Paleontology
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Donald A. Jenni, M.S.	Graduate Assistant
Mrs. Elizabeth S. Wing, M.S.	Graduate Assistant

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Gentlemen:

This report covering the period 1 July 1960 to 30 June 1961 has been prepared expressly for the Board of Control as stipulated by law, for the President of the University of Florida, members of the Florida State Museum Council and Board, and others interested in the activities of the Florida State Museum.

The following staff changes occurred during the year. The Director continued on leave of absence as Director of the Biological Sciences Curriculum Study being conducted by the American Institute of Biological Sciences. At the expiration of his leave of absence in March his resignation was regretfully accepted. Dr. Dickinson, who had served as Acting Director during Dr. Grobman's absence, was appointed Director.

In February, Dr. Donn E. Rosen resigned his position as Assistant Curator of Natural Sciences and Mr. Clayton E. Ray, formerly a member of the staff of the Department of Biology, was appointed Interim Assistant Curator in his stead. Mr. Ernest Nielsen, Museum Technician, resigned in October and was replaced by Mr. Howard Chamberlen. Dr. Douglas Jordan, Dr. Carter Gilbert, Dr. Reeve Bailey, Dr. Paul Slud, and Dr. Roy Rinehart served as temporary members of the scientific staff at various times during the year.

At the close of the year Mr. Gilbert Wright, Curator of Exhibits and a member of the staff since 1953, announced his plans to leave and at the close of the year no suitable replacement had been found.

Dr. Dickinson served as Chairman of the Science Section of the American Association of Museums and represented the Museum at their annual meeting in Detroit. He also attended and represented the Museum at the meetings of the Florida Audubon Society, Florida Academy of Sciences, Association of Southeastern Biologists, Directors of Systematic Natural History Museums, Southeastern Museums Conference and the Association of Science Museum Directors.

At the American Association of Museums meeting he presented a program, "Federal Support and Science Museums," and at the Southeastern Museums Conference delivered a paper, "Science Museums in the Sixties."

The Director continued his work in the Bahamas during the summer of 1960. The results of this expedition are reported in the following discussions of work in the various departments of the Museum.

A major change in procedure concerning use of contract funds for exhibit construction was made. Salary replacement monies were diverted from the Department of Exhibits to enrich our research programs in the Social and Natural Sciences. As a result we were able to augment our scientific staff with outstanding workers who came to conduct special and limited research projects. Normal progress was maintained in our interpretive display program while gains in research productivity resulted.

DEPARTMENT OF EXHIBITS

In order to meet the expanding needs of the Museum in the area of interpretation, an accelerated program of exhibits and other public relations activities was pursued during the year by the Exhibits Department. Highlights of the year's achievements were: production of a complete series of displays for a new historic site museum; a more extensive program of changing exhibits; new displays on principles of biological science for exhibit cases on the Campus, a step forward in meeting the need for more paleontological exhibits; a special service to other Florida museums through circulation of our 14-panel sequential exhibit "Panorama of a Peninsula"; pursuit of a more efficient method in the dissemination of information to the public.

Since the last of these highlights provided a fresh approach to the problem of interpreting the Museum through public media of communication, it merits special comment in this report. The Exhibits Department has always made extensive use of the skills and training of advanced students in the University of Florida by employing students on a part-time basis. Mr. Donald Richie, a Senior in the School of Journalism and Communications and a writer with several years of newspaper experience, was employed for about five months on a part-time basis. Under the supervision of the Curator, Mr. Richie prepared news stories about Museum matters, and in addition wrote several Museum-centered feature stories. Two of these were published in *All Florida Magazine*, a supplement to the Sunday edition of many Florida newspapers, and a third is scheduled for publication in the *Atlanta News*. All material that Mr. Richie prepared was written in collaboration with Museum scientists and other professional employees. Many of the stories were illustrated by photographs from the Museum files. Stories were edited and released by the University News Bureau, many being sent out State-wide to appear in local newspapers from Miami to Pensacola. Not only the activities of the Exhibits Department, but the total work of the Museum, including the field work and laboratory studies of the scientific staff, were presented in a manner that was acceptable to editors and at the same time that met the exacting demands of Museum scientists.

The major public relations endeavor of any museum is directly related to its exhibit program. It is chiefly through exhibits that a museum fulfills its obligation to interpret its scholarly work and resources to the general public. The presence of a large scientific staff, extensive study collections in all areas of natural and social science, and the tremendous fund of organized knowledge associated with a large university, all combine to present an extraordinary challenge to the Museum's Department of Exhibits.

For several years the Florida Board of Parks and Historic Memorials has been urged to build a site museum to tell the dramatic story of one of the oldest towns of the State—Cedar Key. When funds for a suitable building and exhibit were made available during the late fall of 1960, the Museum was asked to participate, as it has in the production of five other site museums designed during the last five or six years. In early fall, work was begun by the Exhibits Department



Mrs. Sung puts finishing touches on the background of a diorama for the historic site display at Cedar Key.



The dock at Cedar Key in 1900. A diorama produced for the Florida State Board of Parks and Historic Memorials.

on the most comprehensive of our park museum projects—the dramatic story of a Florida community beginning with prehistoric times. The program for this project included designing the total display area of 1500 square feet into thirteen display units, and the planning, designing and constructing of all the exhibits.

Eleven large panel-type displays and two dioramas, plus a large wall map, were prepared under this contract during a period of approximately six months. As in other park museum displays produced by the Exhibits Department, items from our own study collections were used as needed. However, a generous gift was made available as a source of supplementary materials for the Cedar Key Site Museum displays. The private collections of the late St. Clair Whitman, a life-long resident of Cedar Key, was placed at our disposal for use in the exhibits by the children of Mr. Whitman, the heirs of his estate.

In addition to a rather extensive and remarkably representative display collection of Florida mollusks, an extensive collection of archaeological materials, documented photographs, old newspapers, and other valuable historic items, were made available. This Site Museum is scheduled for dedication in 1961.

A lively program of temporary exhibits was presented during the year. This was decidedly more varied than usual, owing in part to the availability of funds which, except for the Cedar Key project, would probably have been needed for the construction of permanent or semi-permanent displays.

"The Seminole Today in Painting and Sketch," a series of thirty-one paintings by James Hutchinson, of Port Salerno, Florida, who lived with the Seminole Indians in southern Florida was featured during the summer of 1960.

"Birds of Greenland," a series of fifty-two watercolor paintings by the famous Danish artist Gitz-Johansen, an exhibit sponsored by the Danish Embassy and made available through the Traveling Exhibition Service of the Smithsonian Institution.

"Reproductions from the Sketches and Unfinished Painting Studies of Leonardo da Vinci," a series of twenty-three large sketches made available through the cooperation of Professor A. Didier Graeffe of the Department of Humanities of the University of Florida.

"Primitive Peoples Today," a noteworthy series of seventy reproductions of photographs illustrating a book of the same title written by Dr. Edward M. Weyer, Jr., Director of the School of American Research, Santa Fe, New Mexico.

"Severe Cases of Non-Fatal Florida Snakebite," an award-winning medical science exhibit presented through the collaboration of Dr. Joseph Gennaro, Assistant Professor of Anatomy at the University of Florida Medical College, and Mr. Robert Beach, Head of the University Health Center's Department of Medical Illustration.

"Prehistory of Central America," a special exhibit arranged in connection with the 11th Annual Conference of the Caribbean at the University of Florida.

"Pre-Seminole Dugout Canoe," believed to be at least 500 years old, was uncovered by a ditch-cleaning machine near Zellwood. It was displayed about ten days before being placed in the study collections of the Department of Social Sciences.

"*Sandstone Block with Fossil Remains of Extinct Rhinoceroses*," a block of sandstone from the famous Agate Spring Quarry in Nebraska will later be prepared as a permanent exhibit.

"*National Coin Week Exhibit*," arranged by the Gainesville Coin Club, April 1961.

"*W. J. Bryan and the University of Florida*," two special exhibits prepared for use in the Florida Union. Numerous items relating to the public career of W. J. Bryan were loaned for use in these displays by the Nebraska Historical Society, Lincoln. This exhibit commemorated the centennial of Bryan's birth.

Several special exhibits of recent acquisitions to the collections were presented during the year. These included the firearms collection of Arthur Henry McKeown, presented by the Reverend John Francis McKeown of Rockledge; a World War I uniform and Prussian dress helmet, presented by Mrs. Thomas C. McKee of Jacksonville and Mrs. Donna Faxon of Gainesville; a collection of samples of palmetto craft presented by Miss Viva J. Cooke and Miss Julia May Sampley of Winter Haven; a beautiful wedding ensemble of the late Victorian Period, presented by Dr. and Mrs. Thorndike Savelle of Gainesville.

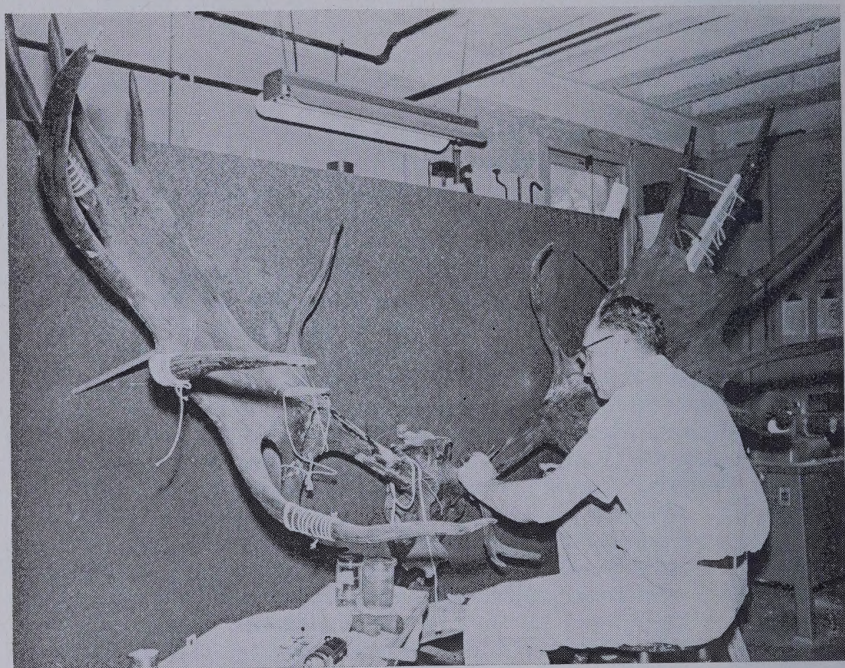
Two other special exhibits produced by the Department were related to University of Florida Homecoming activities. A large panel type display with various photographs made by Exhibits Department personnel was prepared for the College of Arts and Sciences, and another was prepared as the Museum's contribution to the "Problems and Progress" theme of the annual "Life and Learning" exhibit in the Florida Union.

In the fall of 1960 the providing of monthly changing exhibits for two of the new residence halls on the Campus was discontinued, after an experimental run of two years. However, several exhibits that had been prepared under this program were refurbished and made available to the Office of Student Housing, for continued use during the current year.

"*Exotic Animals of Florida*" is the title of a new display installed in the Hall of Natural Science during the summer of 1960. Numerous species of birds, mammals, reptiles and amphibians that were introduced into Florida either intentionally or accidentally and that have thrived in their new environment are included in this display.

Two exhibits mentioned in last year's Report were completed during the year, "A Florida Pleistocene Tortoise" and "A Giant Bison from Bradenton." "Other Fossil Bones from the Bradenton Diggings" is a third display that was added to the series of paleontological exhibits during the year. A fourth permanent installation, the skull and antlers of *Megaceros hibernicus* Owen, commonly known as the Irish Elk, from the peat bogs of Ireland, was added to the paleontological series at the end of the year. The specimen was obtained from the Museum of Comparative Zoology at Harvard. It required a considerable amount of careful restorative work by Mr. Schaffer before it could be displayed.

Part of the staff work in any museum is devoted to improving or reconditioning displays that have proven to be of permanent value. A major refurbishing task was achieved in bringing the display of



Mr. Schaffer at work on the antlers of the Irish Elk.



North end of the new Archaeological Laboratory.

"Some Florida Ducks" up to date. The labels were revised and re-lettered, and several more species added. New labels were designed and printed for the newer habitat groups of Florida bird life, replacing temporary photographic labels that were unsatisfactory as to legibility and as to content. Work on the new case fronts of the Duck exhibit and the Gavia display was completed.

A total of five exhibits on principles of biological science were completed and installed in Flint Hall. They are entitled "Hominid Evolution of the Pleistocene," "The Organic Cycle," "The Community Concept as Exemplified by Florida Scrub," "The Vertebrate Kidney" and "Demes." They were planned and designed in collaboration with various members of the faculty of the Department of Biology and the Department of Biological Sciences.

In addition to the full-time members of the Department, the following were employed during the year on a part-time basis: Miss Emilie Schmidt, assistant to the artist, summer 1960; Mr. William Breeze, photographer, summer 1960; Mr. Robert Hanlon, assistant to the Curator in planning biological exhibits, summer 1960; Mrs. Margaret Osborn, historian, November 1960 to June 1961; Mr. Donald Richie, informational writer, spring term 1961; Mr. James Pedersen, photographer, school year 1960-61; Mr. Edward Symmes, assistant in preparation, spring term 1961; Mr. Thomas Salt, assistant to the artist, spring term 1961. Mrs. Edmay Flowers assisted for one month with classifying mollusks for two of the Cedar Key project exhibits. —A. Gilbert Wright, *Curator of Exhibits*.

DEPARTMENT OF SOCIAL SCIENCES

A major improvement in the facilities of the Department of Social Sciences occurred during the past year with the acquisition and installation of a new laboratory in the basement of the Seagle Building. For the first time we have adequate working conditions for processing, analysis, and study of excavated specimens. As rapidly as proper cases can be purchased, our Florida archaeological research collection is being recased, revalued, and reclassified. Thus these materials become available for comparative study in the same place that new specimens are being processed and examined.

On October 1, Mr. Howard A. Chamberlen replaced Mr. Ernest A. Neilson who resigned as museum technician after being with us over three years.

We have been fortunate to have had the services of Dr. Douglas F. Jordan, for a total of six months during the year, in part as a partial replacement for Dr. Sears' field time under his National Science Foundation grant and in part from funds resulting from the construction by the Museum of exhibits for the new Cedar Key historic site display being built by the Florida Board of Parks and Historic Memorials.

Over nine thousand specimens were catalogued and added to our four major research collections during the year. This does not include 262 additions to our Physical Anthropological collection, secured during the year but not as yet catalogued. This human skeletal material, excavated by Museum expeditions, comprises 50 burials from Crystal River in Citrus County, 170 from Tick Island in Volusia County, 35

from Cabbage Key in Pinellas County, and 12 from near Mill Cove in Duval County. Our Physical Anthropological research collection is fast becoming one of the most important collections of Indian skeletal material in the Southeast.

Our Historical Research Collections were increased by 575 items of which a large number came from the St. Clair Whitman Collection. These are the gifts of Mr. Whitman's children, Mrs. Harriet Fellhauer, Mrs. Ellen O. Bramlett, and Mr. Charles F. Whitman.

An extremely important addition to this research collection is the transfer to the Museum by the Trustees of the Internal Improvement Fund of 309 objects which represent the State of Florida's share of specimens recovered from an early Spanish wreck off the east coast by the Real Eight Salvage Company under Salvage Lease 1329.

Another interesting collection consists of 62 handicraft products and 57 examples of braid made from palmetto, wire grass, cattail, corn shuck, pine needles, etc., by Miss Viva J. Cooke and Miss Julia May Sampley of Winter Haven. We are glad to preserve these examples of local crafts.

Special mention should also be made of three additional accessions. One is a converted Model 1819 U. S. flintlock given by Mr. William L. Hill, Jr., of Pensacola in memory of his grandfather who carried this gun in the Civil War. Rev. J. F. McKeown of Rockledge gave us additional firearms to supplement those presented last year in memory of his father, Arthur Henry McKeown. The third is an extremely nice, white silk, high style wedding ensemble worn near Boston, Massachusetts, in 1891 and donated by Dr. and Mrs. Thorndike Saville of Gainesville.

The Ethnological collections were increased by 16 specimens from Okinawa given us by Col. and Mrs. Jesse P. Green of Melrose, and three specimens from the Philippine Islands and New Guinea from Mr. Orin Fogle of Miami.

As usual the greatest increase, 8796 specimens, occurred in the Archaeological Research Collection. The large number reflects Museum research activities in this field but we are glad to report gifts from individuals which substantially increased our circum-Caribbean holdings. Of first importance here are 74 specimens including pottery vessels, spindle whorls, beads, textile samples, wooden masks, and a copper axe head from Peru donated by Mr. and Mrs. Robert Ebersole, now in Manila, Philippine Islands.

Other gifts from this area include 27 Honduran artifacts from Mr. William W. Plowden, Jr., of Honduras, 6 clay vessels from Costa Rica donated by Mr. and Mrs. L. A. Reuss of Gainesville, and 6 vessels from Panama presented by Miss June Renner of Pinellas Park. Also from the Caribbean are 1725 specimens excavated by the Museum, 597 from Jamaica and 1128 from Sint Maarten, Netherlands Antilles.

Our holdings of archaeological material from the Southeast has been increased by 2969 specimens from Alabama secured by Dr. Sears while working on his National Science Foundation grant study of pre-history of the Gulf Coastal Plain. Museum work at the Jungerman site near Eau Gallie produced 1919 specimens while 442, pertaining to the Cedar Keys area, came from the Whitman collection, previously mentioned.

Several sections of prehistoric Indian dugout canoes were secured by the Museum from a zone of plastic peat buried beneath 4 feet of fibrous peat on the eastern side of Lake Apopka. These canoes had been hollowed out by burning and are pre-Columbian in date. Appreciation is due Mr. C. R. Clonts, owner of the farm, and Mr. Arch Hodges, Superintendent of the Zellwood Drainage District, for the preservation of these specimens and for cooperation and assistance in their removal.

Among Florida specimens, a clay pipe and 230 glass beads, sent us by Mr. D. D. Laxson of Hialeah and Mr. Earl Riggs of Coconut Grove, are important for comparative purposes. They came from the basement of the old Brickell residence in Miami and date to the time when an early part of this house was a Seminole trading post around 1865.

During the year a few loans were made for instruction, lecture, and exhibit purposes outside of the Museum. As usual many specimens were supplied the Exhibits Department for rotating exhibits and many new accessions were placed on temporary exhibit. To the list of long-term loans, published in previous reports, should be added a major loan to the Martin County Historical Society.

One issue of the CONTRIBUTIONS, covering negotiation between Indians and the British in 1765, was published.

During the summer, the Curator and Mrs. Bullen attended the 34th International Congress of Americanists in Vienna and the 6th International Congress of Anthropological and Ethnological Sciences in Paris. At both of these meetings, Mr. Bullen represented the University of Florida and presented scientific papers. Mrs. Bullen also attended the World Federation for Mental Health meeting in Edinburgh. Various classical sites were visited and museum collections examined. In Copenhagen, Mr. Bullen studied, photographed, and recorded specimens at the Danish National Museum which had been excavated by the late Gudmund Hatt at the Krum Bay site on St. Thomas in 1922-23 and never adequately described. These data will be included in a report of work at the same site done by the Museum in cooperation with the Central Florida Museum and the William L. Bryant Foundation in April 1960.

During the fall Mr. Bullen excavated at the Crystal River site in Citrus County securing for the Museum skeletal material mentioned earlier and a good representative collection of pottery from various structural units. Five mounds were investigated to evaluate the potentialities of the site. Dr. Jordan assisted at this site with the mapping and some of the testing.

In March Mr. Bullen, under an American Philosophical Society grant, excavated at Tick Island, seven miles west of DeLeon Springs. The grant was made to save early burials and the associated burial data which would have been removed by dragline operations otherwise.

In April the Curator and Mrs. Bullen traveled to the Caribbean area where Mrs. Bullen continued her study of language behavior and attended the Third Caribbean Conference for Mental Health. Mr. Bullen examined archaeological collections in Jamaica, Haiti, and the Dominican Republic; surveyed parts of Jamaica and Sint Maarten for

preceramic sites; and excavated in Jamaica and Sint Maarten, Netherlands Antilles. The work in Jamaica was done in cooperation with the Institute of Jamaica and in Sint Maarten in cooperation with Gov. J. J. Beaujon of that island and the new museum now being built there. It is expected both these projects will be continuing ones.

Dr. Sears, with financial support from his National Science Foundation grant, completed his surveys of the lower Alabama and Tombigbee River drainages. He located many sites, of which some are large and important, and secured representative artifactual collections. Preliminary analysis of the data indicate occupation by Indians from well before the time of Christ up to A.D. 1830. He also excavated 35 burials at a Safety Harbor period burial mound on Cabbage Key in Tampa Bay as part of the Florida Highway Salvage program. Currently, he is finishing a report on the Tucker site, excavated in October 1959.

Dr. Jordan, after assisting Mr. Bullen at Crystal River, returned to the Museum in December and again in April as Research Associate. During the first of these periods, he made an extensive stratigraphic test at the Jungerman site near Eau Gallie and, during the second, excavated the Goodman burial mound near Mill Cove east of Jacksonville. A report on the stratigraphic test is nearing completion and the material from the burial mound is being processed.

Members of the Department attended the annual meetings of the Southeastern Archaeological Conference, the American Anthropological Association, the American Association for the Advancement of Science, the Society for American Archaeology, the American Association of Physical Anthropologists, the Florida Academy of Sciences, and the Florida Anthropological Society. Eight scientific papers were presented by them at these meetings.

Reviewing the activities of the Department of Social Sciences for the past fiscal year leaves one with a sense of accomplishment. Close scrutiny, however, indicates that these activities, while they redound to the credit of the Museum, were not accomplished within the limits of our budget. Dr. Sears' important work in Alabama was made possible by a National Science Foundation grant and Dr. Jordan's excavations at the Jungerman and Goodman sites were possible only because of unexpected funds from the Cedar Key Muesum project. The Curator's excavations at Tick Island were sponsored by the American Philosophical Society while his Caribbean activities, which included excavations in Jamaica and Sint Maarten, were supported by non-University funds. Even the cost of Dr. Sears' emergency salvage work on Cabbage Key in Tampa Bay had to be paid out of 1961-62 funds. In fact the only field work 100 per cent supported by the Museum during the past fiscal year consisted of the Curator's tests at the Crystal River site and the recovery of Indian dugouts at Lake Apopka.

This situation is the result of an inadequate expense budget which has been increased only 10 per cent during the past eight years while personnel and activities have expanded three times. We need an adequate expense budget to follow a planned research program. This lack prevents us from investigating promising leads, doing necessary salvage operations, utilizing available labor, or completing logical

research. We also need additional curatorial staff as both our Ethnographic and Historic Research Collections at present can only receive custodial care.

While we can point with pride to our accomplishments, we also feel that we are trying to make bricks without straw. As more demands are made upon us and as more opportunities present themselves, we find that we are more and more often not properly discharging our full responsibilities.—R. P. Bullen, *Curator of Social Sciences*.

DEPARTMENT OF NATURAL SCIENCES

In last year's report an attempt was made to clarify the interrelationships which exist between the research collections, the teaching departments of the University and the State Plant Board. The past year has seen no change in this arrangement except that the former Plant Board has now become the Division of Plant Industry in the Department of Agriculture.

Research production, compared to last year, fell off somewhat with fewer papers produced (12) and conspicuously fewer pages included (71). Notably fewer papers (9) were presented before professional societies also. Partially compensating for this change is a dramatic increase in the use to which our research materials are being put by other research workers. More than twice as many loans (56) were put on record, and almost twice as many workers (25) came here to use our materials.

What has been accomplished in attempting to solve our two major restrictive problems, lack of space and personnel? Much energy has been expended in attempting to gain new space. At the time of writing it would still be premature to claim success in this endeavor, but our hopes are high. The personnel problem remains unrelieved in that no new curatorial positions have been made available to us. But other important things have happened.

The Department of Natural Sciences program in ichthyology suffered a sharp setback with the resignation of Dr. Rosen, our ichthyologist, to accept a position with the American Museum of Natural History. His staff position as Assistant Curator is now filled by Mr. Ray, our vertebrate paleontologist, who formerly served in a nonsalaried capacity as an Associate.

The program of bringing to Gainesville prominent research workers interested in working with the research collections or otherwise contributing to our program enjoyed unexpected and magnificent success this year. During this period our staff and program benefited by association with Dr. Reeve M. Bailey of the Museum of Zoology, University of Michigan, who spent 2 weeks here working with Dr. Rosen on a manuscript dealing with a reclassification of fishes; with Dr. Roy Reinhart of Miami University (Ohio) who spent 3 weeks mostly collecting fossil material of sea cows and related forms; with Dr. Carter Gilbert of the U. S. National Museum who spent 3½ months studying relationships of certain freshwater fishes of the United States; and with Dr. Paul Slud of the American Museum of Natural History who spent 2½ months in Costa Rica collecting birds for an avifaunal study of that country. All these persons served as salaried Research Associates.

Throughout the year Mr. Jenni and Mrs. Wing served as graduate assistants working in the bird and mammal collections respectively.

Mr. Jenni continued his research on the ecology of herons under the sponsorship of the Florida Audubon Society Grant to the Museum. He devoted full time to field work during the 1960 breeding season. During July 1960, field trips were made to Lake Okeechobee, Tampa Bay, and Lake Griffin where food habits materials were collected. Using information gathered under this grant, Mr. Jenni wrote his dissertation during the year and was awarded the Doctor of Philosophy degree at the June commencement.

An experiment in replacing part-time student help with full-time, well-trained and responsible subprofessional help has enjoyed reasonable success. Miss Ann McDowall, Mrs. Linnie Beck, Mrs. Evelyn Bartlett, and Mrs. Donna Meador each served part of the year. The experiment will be continued.

Student and other part-time help included: Mr. Andrew Arata, Miss Katharina Carlson, Miss Mary Ann Cromer, Mr. Ronald Echols, Miss Elizabeth Frazer, Mrs. Sue Hess, Mr. Howard Hutchison, Miss Sarah Lynn, Mr. Charles Myers, Mr. Douglas Robinson, Mr. John Ryals, and Mr. Jon Thompson. In addition to these, several students were provided by the Departments of Biology and Geology to aid with the collections; others on grant payrolls not administered through the Museum contributed as well.

The following are details of activity within each of the eight collections:

Arthropods. Eight large and important collections of odonates were donated in addition to 333 other specimens including slides and pinned material. Major donors include Mr. F. S. Blanton, Mr. Peter Drummond and Dr. J. N. Layne of this University, Dr. C. Francis Byers, formerly of the University, and Mr. Thomas Donnelly of Rice University and Mr. K. C. Emmerson of Virginia who contributed a type series of *Protoneura* and a series of *Mallophaga* respectively. New material is largely West Indian. Important units coming from New Zealand and North America make up the rest. All together this represents about 2000 new adult insects acquired, and an additional uncounted quantity of nymphs and alcoholic preparations. Currently the arthropod collection consists of about 320,000 specimens. Acquisition of a new 48-drawer storage cabinet greatly relieves the housing problem for pinned insects.

Eight loans of mayflies and dragonflies were made during the year, and four workers from other institutions used the collections here, having come from as far as Utah.

One loan of dragonflies was received from the Institute of Jamaica to facilitate research work here.

All research personnel associated with the collection participated in meetings of various scientific groups during the year. Mr. Denmark, who is in administrative charge of the collection, delivered a paper before the Entomological Society of America entitled, "Recent progress and needs in the documentation of our insect fauna." Dr. Westfall spoke on "The true *Gomphus consanguis*" before the Association of Southeastern Biologists. Dr. Berner continues as president of the Florida Entomological Society and editor of its Journal. Dr.

Hussey again serves as editor of the *Annals of the Entomological Society of America*, and Dr. Howard Weems serves as secretary of section A of the same group. Dr. Westfall is continuing with his project of writing a manual of the damselflies of North America.

An attempt is being made to build a better collection of neotropical material. In this direction we have accumulated large collections of neotropical Odonata from the American Museum, Carnegie Museum, Cornell University, and the California Academy of Sciences for determination and processing. We will retain types and uniques, returning about 50 per cent of the material.

Mollusks. Regrettably this large collection has had to get along still another year without the attention of a trained malacologist. No progress can be reported toward any of our stated goals. It is hoped that some day soon this extremely valuable collection can enjoy the usefulness and research productivity that are inherent. To this end the Museum requires, desperately, a new staff appointee.

Invertebrate Fossils. The University of Florida is situated in unexcelled geological surroundings for the development of a research collection of the Tertiary fossils of the eastern United States. The availability of abundantly fossiliferous strata throughout the Coastal Plain and the peninsula of Florida, the nearness to coastal waters where comparable faunas are now flourishing, and the large systematic collection of recent mollusks at the Museum should be exploited to make the University the center of paleontological research on Cenozoic invertebrates in the United States.

Only materials relevant to current research studies have been processed. For specimens obtained during this year, 41 accession numbers have been assigned and 421 entries have been recorded in the catalogue. This brings the total number of catalogued lots to 1655. An estimated 43,000 individual specimens, including those uncatalogued, are available for study.

In addition to fossils discovered by faculty and students in local strata and donated to the Museum, three important gifts were received. Mr. J. Collins donated 96 specimens from Eocene deposits of England, and Mr. G. A. Cooper presented remains of 3 species of rare Paleozoic animals. A large collection of fossils, minerals, and rocks obtained by the late Mr. W. A. Little of Gainesville was presented to the University by his widow. Most of the 1000 specimens are of Paleozoic origin and not previously represented in our collections. The Department of Geology purchased a series of 33 Miocene fossils from France for the collection.

Due to structural stresses detected in Floyd Hall, the space occupied by the collection was condemned during April 1961. It was moved to the ground floor for safe storage until the building is reconditioned. Though temporarily handicapped, the reassignment of space in the remodeled building solves one major problem that previously restricted the development of the collection. A room with about 625 square feet of floor space is now assigned for its use.

Just in time for maximum use during the coming year was the acquisition of new cabinets and trays for continuing the systematic arrangement of specimens. Facilities are now available to house all specimens on hand.

Four loans were made to the United States National Museum. Visiting scientists making use of the collection were W. D. Nesteroff of the Sorbonne, Paris, and Dr. J. E. Hoffmeister of the University of Rochester.

For research here, specimens were borrowed from the U. S. National Museum, the Museum National d'Histoire Naturelle, the British Museum (Natural History), and the University of California.

Mr. Brooks continues to serve as Associate in charge of the collection.

The collection has been employed extensively in teaching courses in paleontology and stratigraphy, and for the promotion of scientific interest in school children through lectures and demonstrations. Two high school students, participants in a project sponsored by the National Science Foundation, worked on the collection as volunteers last summer.

During the year two graduate students have used materials in the collections for research in the preparation of dissertations.

Mr. Brooks participated in several scientific meetings. A lecture, "Climatic accidents and the development of the limestone terrain of Florida," was presented to Sigma Xi. At the Southeastern Archaeological Conference, he spoke on "Geology of the Devil's Den archaeological site." At the Florida Academy of Sciences and at the Geological Society of America meetings in Knoxville, a paper on the Florida Middle Ground was presented and a film shown. He serves as vice-president of the Southeastern Geological Society. On invitation of the Audubon Society he conducted a geological field trip on the stratigraphy and physiography of Alachua County.

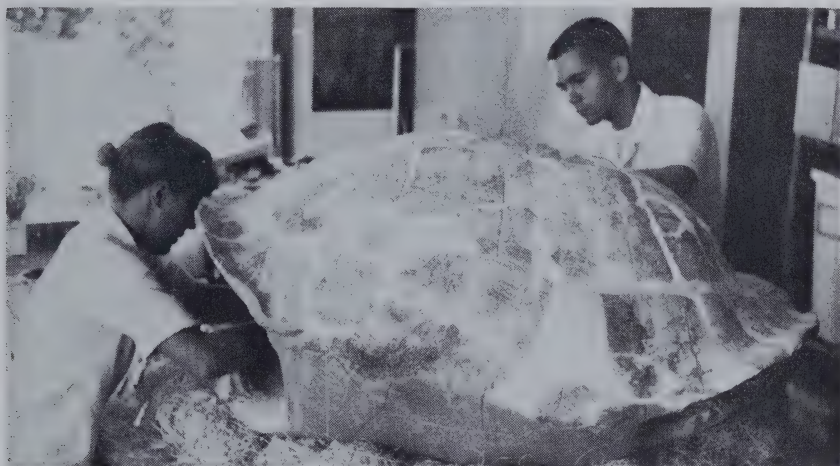
The National Science Foundation has awarded him a "Science Faculty Fellowship" to spend next year doing research, mostly at Harvard University.

Vertebrate Fossils. Thirty accessions were opened during the year representing mostly donations of persons interested in promoting our research program. Conspicuously valuable gifts were received from Mr. F. R. Berquist, Mr. H. J. Gut, Mr. D. Roland, Mr. L. O. Warren, and Dr. W. Auffenberg. Five Museum-sponsored expeditions greatly increased the amount of new material. Included in this year's accessions are fossils from Colorado, Nebraska, the Bahamas, and Ireland, augmenting the mass that is local in origin. New catalogue entries number 300 and represent approximately 500 specimens. This brings the total of our catalogued holdings to 4100 lots. Another new acquisition which will be of tremendous aid in our research efforts is a measuring microscope.

Twelve loans were made to other institutions including the universities of Colorado, Michigan, and South Florida, and the Carnegie and Chicago Natural History Museums. Two workers came from as far away as Ohio and Massachusetts to use the collections. For research work here, large series of rodent material were borrowed from four major U. S. museums and the Leiden Museum of the Netherlands. Fossils were used extensively in the teaching program of undergraduate courses, many appeared on "Spotlight on Research," an educational television show. A trip to the University's Thomas Farm fossil dig was used as an opportunity to introduce many freshman and soph-

omore students to the work of the scientist in the field. Mr. Ray, who is newly appointed to the position of Interim Assistant Curator, and in charge of the vertebrate fossil collection, supervised the fossil digging operation.

Mr. Ray presented two scientific papers on the underwater Devil's Den site, one in Denver before the Society of Vertebrate Paleontology, the other to the Southeastern Archaeological Conference meeting locally. The summer of 1960 he spent at Harvard University helping prepare a bibliography of paleoneurology. In cooperation with Dr. Sears of our Social Sciences Department and Dr. J. M. Goggin of the University's Department of Sociology and Anthropology, Mr. Ray and Mrs. Wing gained from the National Science Foundation support for a two-year project to study zoological remains from archaeological sites.



Miss Jane Larson and Mr. Howard Hutchison completing the restoration of the Pleistocene tortoise.

Considerable progress has been made in adding comparative material to the collection. This has been accomplished through gifts, trade, or purchase of non-Floridian fossils, casts of fossils, and skeletons of modern mammals. Large quantities of comparative material have come to us from the Museum of Comparative Zoology at Harvard, Carnegie Museum of Pittsburgh, Dr. Auffenberg, and Mr. Eric Erickson.

Neither research nor teaching in vertebrate paleontology can be carried out satisfactorily on a purely local basis. Largely because of changing patterns of animal distribution through geologic time, a paleontologist cannot content himself with a thorough knowledge of the local fauna. Even though special attention is given to the southeastern and Caribbean area, its adequate study demands a broad library and a worldwide synoptic collection of vertebrates. These are being slowly accumulated.

Progress has been made, but serious problems remain. The current problem that overshadows all others is the lack of adequate quar-

ters, storage facilities, and basic equipment. No progress has been made on this problem during the year owing to inadequate funds for storage cases. Indeed the problem is more acute than ever as a result of extensive additions of material.

Fish. Midway through the year Dr. Rosen resigned to accept another position. During the spring months Dr. Gilbert, formerly of the U. S. National Museum, carried on investigations here as a Research Associate. Essentially no curatorial work was performed after Dr. Rosen's departure.

Four accessions representing about 5000 specimens were opened. The Director's collections contributed almost 1000 as a result of work in the Bahamas, and Dr. Rosen collected most of the remainder. Two Museum-sponsored expeditions produced most of the local additions and the majority came from the Gulf Coast region of Florida. Approximately 1730 specimens were catalogued as 190 lots during the year. This brings the number of catalogued lots to 9288 or roughly 100,000 individuals.

Five loans were made to other institutions, and three workers came here to use collection materials. Four museums loaned Drs. Rosen and Gilbert almost 1500 fishes for their research use. During the fall semester Dr. Rosen taught ichthyology and made extensive use of the newly built stained skeleton collection. It was an invaluable aid and served as the foundation for a superior course.

For the American Society of Zoologists' symposium in New York, Dr. Rosen presented a paper entitled "The jaw of cyprinodontiform fishes, a preacanthopterygian experiment in protractility." He was elected to the governing board of the American Society of Ichthyologists and Herpetologists. Dr. Gilbert attended the Austin meetings of this same society. During the coming year he will assume charge of the fish collection.

At present, the fish collection is crowded, but is not "bursting at the seams." Assuming a continued normal rate of growth, it will not be long before more room is urgently needed. In order to delay the inevitable as long as possible, a further amalgamation of small lots of specimens will be attempted.

In the past, ichthyologists have found library facilities inadequate at the University of Florida. Purchase of needed publications was begun last year and a considerable volume was amassed to make more efficient the conduct of research in ichthyology. The program to increase the amount of literature available will be continued.

The major project that Dr. Gilbert hopes to pursue is a study of the fishes of Florida, particularly the freshwater forms. This will involve much collecting in geographical areas poorly represented in the collection. Zoogeographic distributions will be the basis of this study, but pertinent ecological data will also be sought. The freshwater fishes of the southeastern United States are among the least well known in the entire North American fauna. The geographical location of the University of Florida is ideal for this study.

Amphibians and Reptiles. Forty large or especially important accessions were opened during the year. In addition, numerous small gifts of local origin were received. Major donors include Mr. C. W.

Myers who presented a large personal collection and a major portion of the historically important Julius Hurter Collection, much of which was collected before the turn of the century. Miss Anne Meachem presented several hundred specimens from Guatemala, Mr. Wayne King and Mr. Harold Hirth contributed large numbers from Costa Rica, Dr. Jack Fouquette, Dr. Douglas Rossman, and Mr. Howard Campbell collected over 500 specimens in Mexico, Mr. Howard Hutchison made valuable contributions from Kansas, and Mr. Crawford Jackson donated part of his large collection of turtle skeletons. Of these 40 accessions, 12 consist of materials acquired on Museum-sponsored expeditions. Besides the southeastern United States this new material derives from Australia, Sumatra, Liberia, Germany, several Central American countries, the West Indies and Bahamas, and numerous midwestern and Pacific Coast states.

New catalogue entries number 1100 and consist of about 3300 specimens. This brings the total holdings to 12,000 catalogued lots, approximately 50,000 specimens. Much yet remains to be catalogued.

In addition to this wealth of new research material, the most valuable acquisition consists of three new dry-storage cases that will partially relieve the excessive crowding in our burgeoning skeleton collection.

Loans to other institutions numbered 22 during the year. Four nonlocal persons made extensive use of our research materials here. From other institutions 25 loans of material were made for research use here. Materials were used extensively for instructional purposes in various biology classes.

Dr. Riemer attended the Conference of Biological Editors in New York and meetings in Austin of the American Society of Ichthyologists and Herpetologists. The latter group appointed him chairman and editor, in charge of producing a catalogue of amphibians and reptiles of the western hemisphere. He also continues to serve as managing editor of the Museum's Bulletin.

Appreciable progress has been achieved toward our goal—much new Caribbean and Central American material has been acquired this year, and the skeletal collection has expanded dramatically with the addition of hundreds of new species from throughout the world. We have now probably one of the world's finest collections of ophidian skeletal material.

The greatest barrier to progress and steady development continues to be lack of space. It is hoped that this restricting element can be overcome during the next year. A concentrated effort to get catalogued the present backlog of accessioned material will be made in the next twelve months.

The National Science Foundation sponsored field program associated with a study of the herpetofauna of the Chattahoochee region of the southeastern states is completed. Dr. Riemer expects to study and report on the accumulated material during the next year.

Birds. The cataloguing of 625 specimens during the year increased the bird collection to almost 8700 skins and skeletons. We received 97 skins and skeletons of Haitian birds as our share of the jointly-sponsored Yale-Florida expedition to Haiti in 1958. Most welcome was another 120 skins of Cuban birds from Dr. Albert Schwartz and Mr.

G. R. Zug. Mr. H. L. Stoddard contributed 150 birds, migrant TV-tower casualties from Leon County. Smaller lots came from Dr. D. Stamm of the U. S. Public Health Service and Dr. William Jennings from netting operations connected with arthropod-borne-virus investigations at Tampa and from the Seminole Reservation near Clewiston. Mr. Timothy Austin provided 30 skins from similar operations conducted by the Yale Medical School at the Archbold Biological Station. Specimens were also received from the Florida Fresh Water Game and Fish Commission and from staff and students of the University.

Loans were made to four other institutions, and the collection was used by scientists visiting here from an additional five. The Audubon Society borrowed materials for displays, and some were used for the Elementary Science Series on our local educational television station. Principal use of the collection has been by students in the ornithology and elementary biology courses.

Dr. Austin completed his book on "Birds of the World," which is now in press. He attended the annual meetings of the American Ornithologists' Union in Ann Arbor, Michigan, as a member of the Executive Council. He continued to serve as an editor of the Bulletin of the Florida State Museum, and as review editor of Bird-Banding. He was appointed this spring as chairman of the committee in charge of completing the final volumes of A. C. Bent's monumental Life Histories of North American Birds, published by the U. S. National Museum.

Lack of space continues as our major concern. No more room is available for additional skin cases, and we scarcely have tray space left for anticipated acquisitions during the coming year.

Mammals. Accessions during the past year consisted of 68 lots including more than 800 individuals. A total of 748 were catalogued, bringing the current holdings in the mammal collection to 6594 specimens.

Among the important additions to the collection was material received from the Florida Game and Fresh Water Fish Commission. Mr. Richard Harlow donated 14 bear skulls and an entire skeleton plus several other mammal specimens. Mr. Richard Eichorn and Mr. James Whalen presented the collection with approximately 400 gray squirrels from various localities in Florida; such material is invaluable for future studies on individual, age, and geographic variation. A beaver, the first Florida specimen for the collection, was received from Mr. Robert Dahne of the Florida Game and Fresh Water Fish Commission. The skull of a pigmy sperm whale and a small pilot whale were received from Marine Studios through the kindness of Mr. F. G. Wood, Jr. Other noteworthy accessions include collections of mammals from Iowa, Kansas, and several eastern states, Costa Rica, Guatemala, Mexico, and Trinidad. Most of these specimens were donated by students and staff of the University. A collecting trip in August 1960, partially financed by the Museum, secured small mammals of particular interest because they represent topotypic material.

A loan was made to the American Museum of Natural History. Exchanges were transacted with the University of Michigan; Carnegie

Museum; Natur-Museum und Forschungs-Institut, Frankfort, Germany; Purdue and Florida State Universities.

Five workers came here from other institutions to make use of the collection during the past year.

The collection continues to receive considerable use by undergraduate and graduate students and staff of the University. Several intra-departmental loans were made during the year. The courses in mammalogy and in vertebrate biology extensively utilized collection materials. Some specimens were used for TV presentations, and by the Exhibits Department of the Museum.

Dr. Layne continued as Associate Curator in charge of the collection. He was elected councilor-at-large in the Florida Academy of Sciences, was reappointed to the Committee on Marine Mammals of the American Society of Mammalogists, and also served on several editorial boards. Dr. Layne taught mammalogy during the fall term, vertebrate biology during the spring.

During the past year Dr. Layne continued his research on small mammal population ecology and cetacean biology. The former work is supported in part by a grant from the National Science Foundation. An additional grant was awarded by the National Institutes of Health for the exploration of certain aspects of parasitism in native Floridian mammals during the coming year.

Lack of space, storage facilities, and trained help continue as chronic hinderances to the efficient growth and utilization of the mammal collection. Of particular concern is the lack of adequate facilities for the preparation of skulls and skeletons by means of dermestid beetles or maceration. The present physical arrangement of the collection, divided as it is into several rooms and hallways, is undesirable, and it is hoped that soon it will be possible to house the entire collection as a single unit. A critical need of the collection continues to be adequately trained subprofessional personnel.

The goals of the collection remain, as in the past, to build an extensive research-oriented collection of mammals from Florida and other southeastern states and establish a representative synoptic collection of mammals on a worldwide basis for teaching and comparative purposes. Specific aims for the next few years are to increase the holdings of skeletons and soft parts and to attempt to build up the representation of certain areas of the State which have thus far been little collected. In the latter connection, it is felt that large series of topotypes of the forms described from Florida should be acquired as rapidly as possible since natural habitats in the State are being destroyed at an increasing rate. Many of the type localities of Floridian mammals will soon be destroyed.—W. J. Riemer, *Associate Curator of Natural Sciences*.

SUMMARY

The preceding departmental reports present many of the details of our activities during 1960-61. In summary, the year was one which saw continued growth of our research collections, greater use of these collections by other workers and further inefficiency of use due to lack of adequate space and staff.

The educational program which the Museum carries out through its interpretive displays moved forward very slowly due once again to lack of space and staff.

The Florida State Museum has a large responsibility to the people of the State and to the scholarly community of the University of Florida. The present level of support does not provide hope of accomplishing our goals. As year after year of lack of recognition of the potential contribution of the Museum passes, the difficulties of achieving these goals increase.

It is difficult to defend a continuation of investment in time and money for the pure maintenance of research materials which are unproductive. Materials on hand *must* be properly cared for and yet the demands of this care preclude appropriate research exploitation and a continuation of vital exploratory and survey work. The natural features of Florida are being disturbed on every hand, faunas are being lost, historic and prehistoric records are being destroyed and we are virtually helpless in our efforts to preserve and study these records before it is too late.

Florida's strategic geographic position in relation to the southeastern United States and the Caribbean area makes it a logical center for programs normally associated with an outstanding museum. The University of Florida has for many years maintained its interest in these areas. It has assumed a leading role in studies and teaching in the humanities and sciences related to this ever more important region.

The Florida State Museum recognizes the importance in its role as a unit of research and instruction. We continue proud of our own accomplishments and of the part we are playing in the total program of the University of Florida. We are disappointed at our inability to make a larger contribution.

Respectfully submitted,
J. C. DICKINSON, JR.
Director

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